

FIG. 1

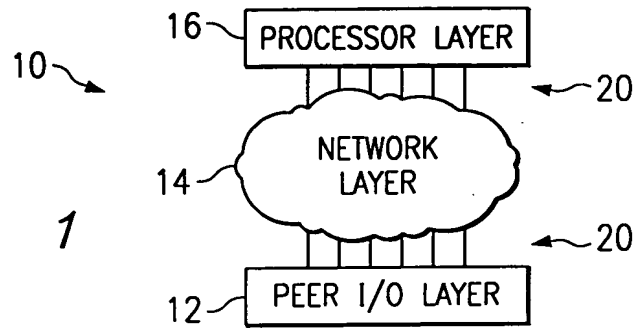


FIG. 2

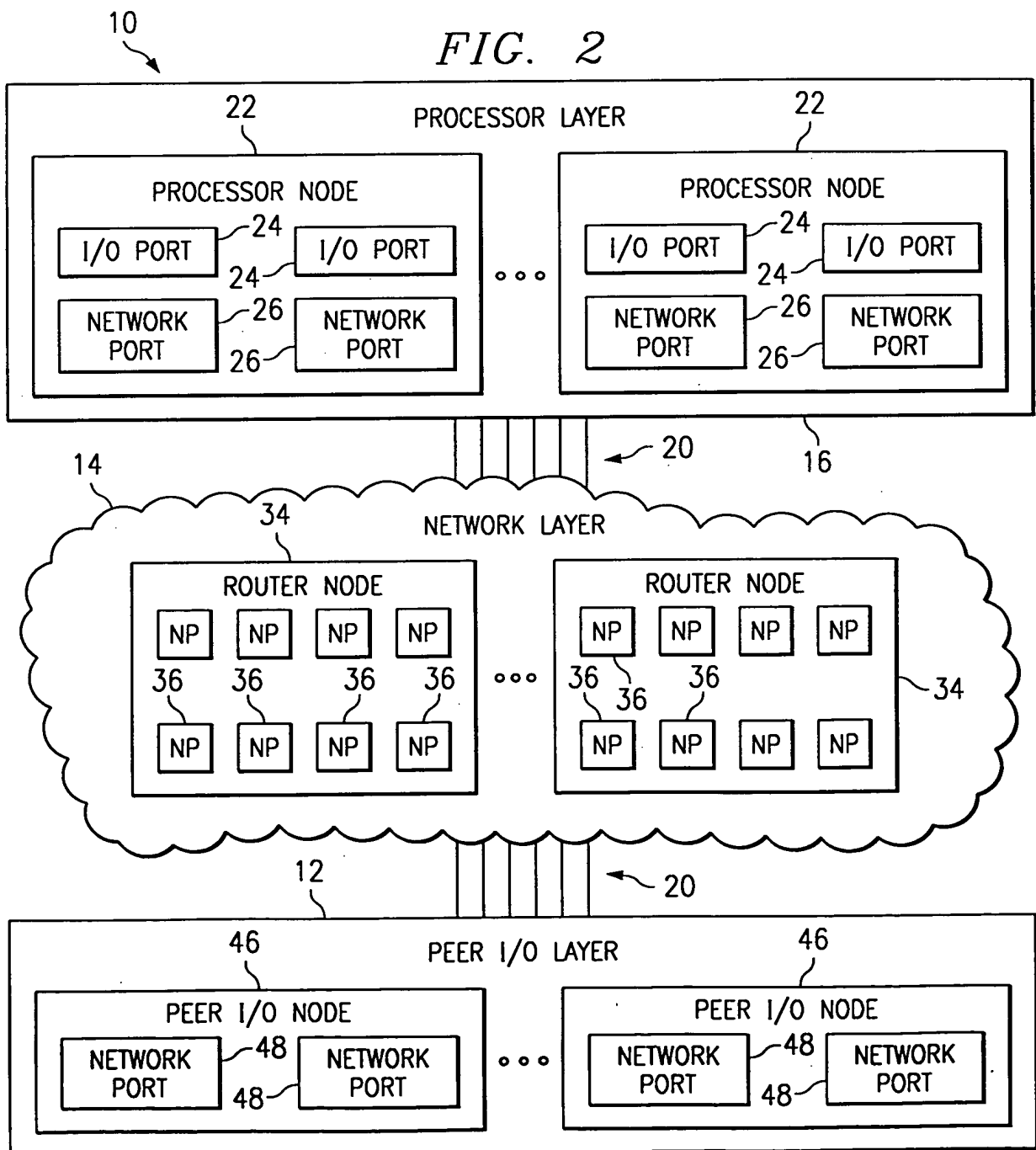
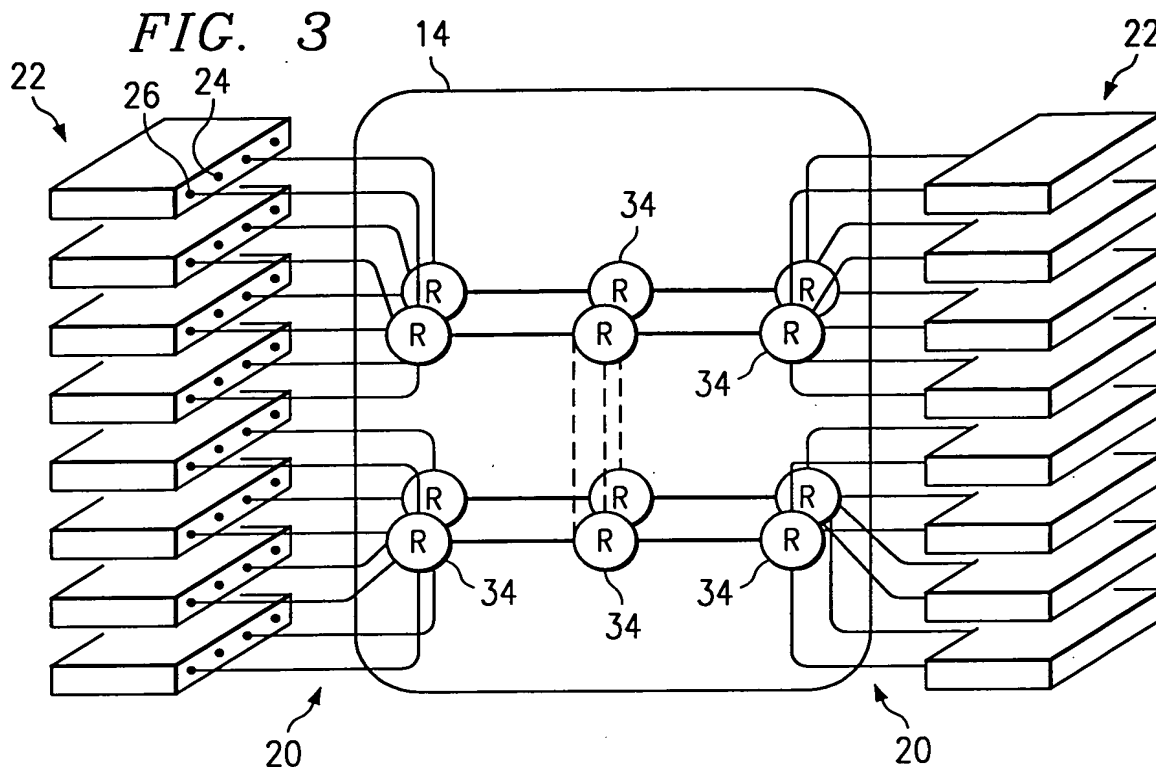
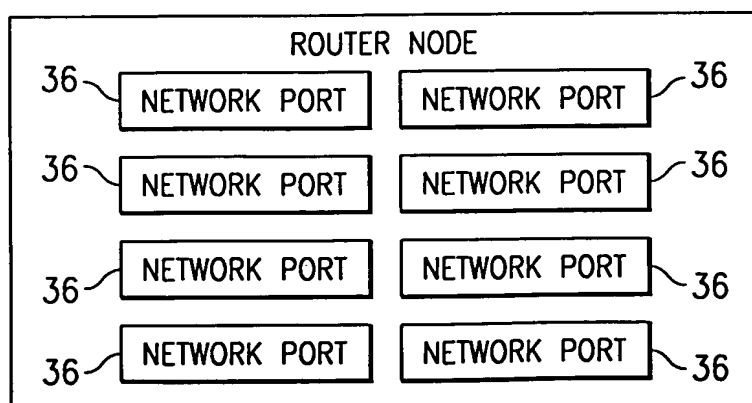
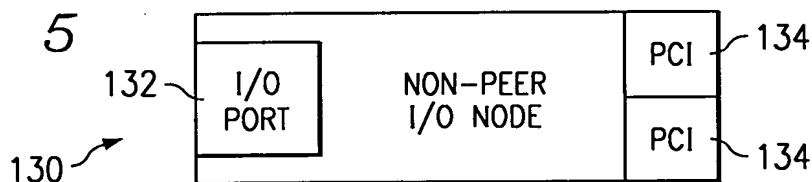


FIG. 2



**FIG. 5**



**FIG. 6**

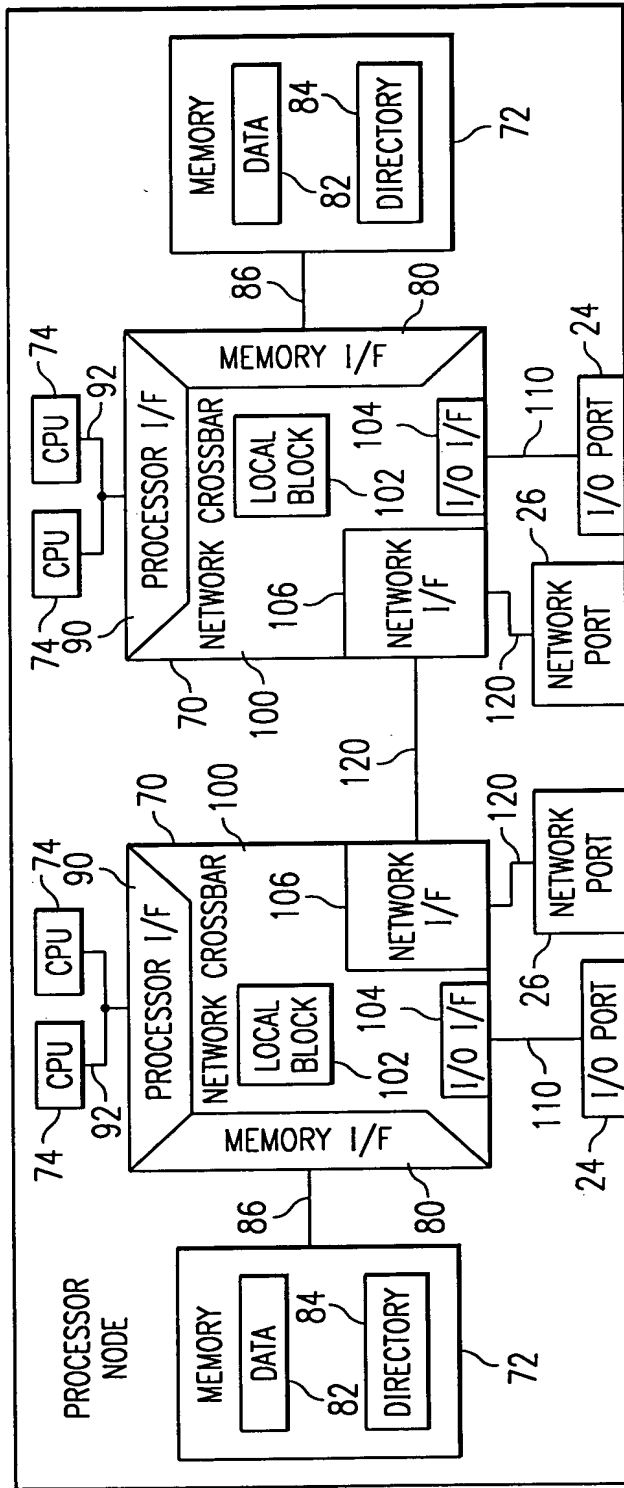


FIG. 4

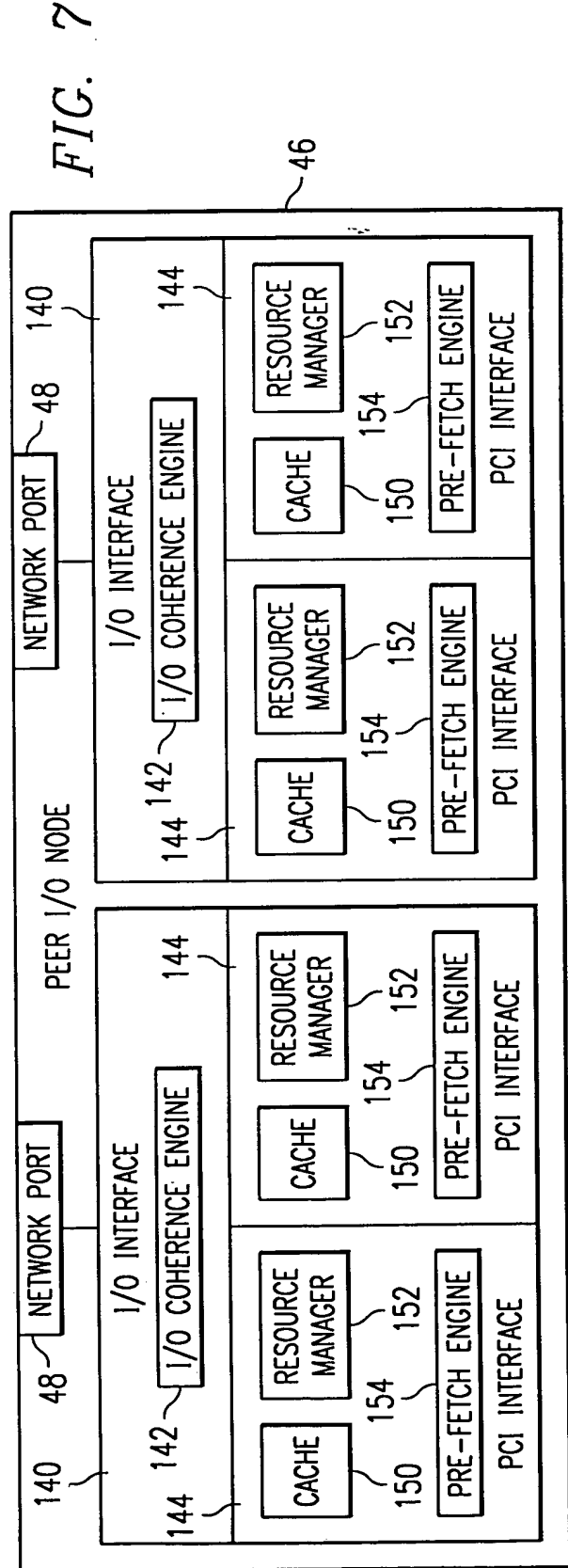
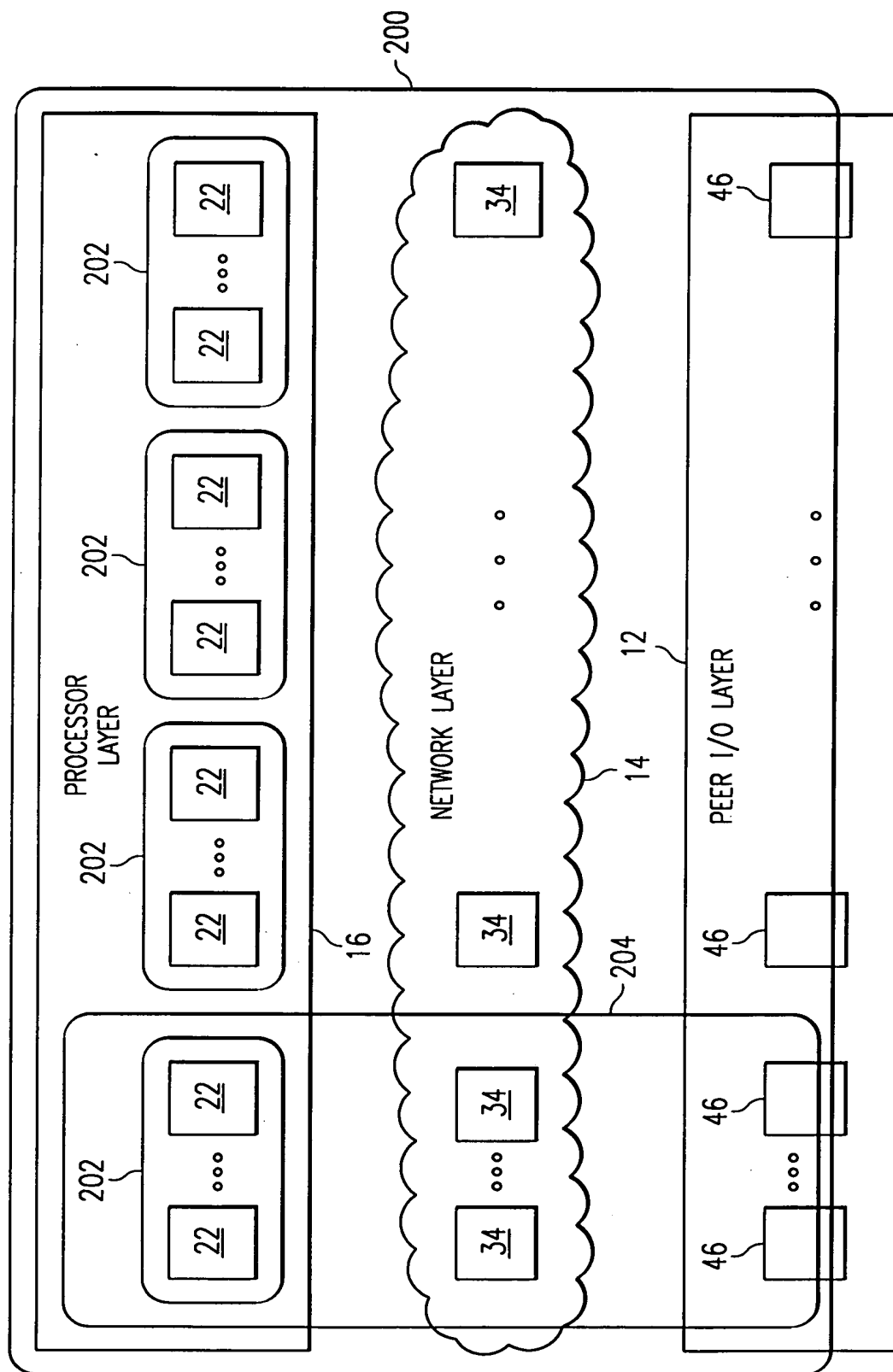


FIG. 7

FIG. 8



900					
902		904	906		
GROUP		NAME	DESCRIPTION		
910	READ	SHARED	READ	910a	
			RDSHD		READ SHARED
		EXCLUSIVE	RDEXC	READ EXCLUSIVE	910b
			RDXRO	EXCLUSIVE READ-ONLY TIMED	
			RDXRN	EXCLUSIVE READ-ONLY UNTIMED	
		GET	GET	READ INVALID	910c
			GETF	READ INVALID, FORCED	
		etc.	AMOR	ATOMIC MEMORY OPERATION, READ	910d
			NCRD	NON-COHERENT READ	
912	WRITE	WRITEBACK	WRBK	912a	
			WRBKR		WRITEBACK, CONCURRENT READ OUTSTANDING
			IWE		IMPLICIT WRITEBACK EXCLUSIVE
			RQSH		CEX DROP (RELINQUISH)
			RQSHR		CEX DROP, CONCURRENT READ OUTSTANDING
		PUT	PUT	WRITE INVALIDATE	912b
			PFCL	CACHE LINE FLUSH	
		ETC.	AMOW	ATOMIC MEMORY OPERATION, WRITE	912c
			NCWRD	NON-COHERENT WRITE, DOUBLEWORD	
			NCWRF	NON-COHERENT WRITE, CACHE LINE	
914	PROBE	SHARED	INTER	INTERVENTION SHARED	914a
		EXCLUSIVE	INEXC	INTERVENTION EXCLUSIVE	914b
			FLSH	FLUSH	
			ERASE	ERASE	
		GET	ININV	INTERVENTION INVALID	914c
			ININF	INTERVENTION INVALID, FORCED	
		ETC.	INVAL	INVALIDATE	914d
916	INVAL GENERATION	BINEV	BACKOFF INVALIDATE ECHO, VECTOR FORMAT		
		LINVV	LOCAL BLOCK INVALIDATE VECTOR		

FIG. 9

FIG. 10A

1000		1002	1004	1006
		GROUP	NAME	DESCRIPTION
1010	READ	SHARED	SRPLY	SHARED REPLY
			SRESP	SHARED RESPONSE
			SACK	SHARED ACKNOWLEDGE
			BINTR	BACKOFF INTERVENTION SHARED
		EXCLUSIVE	ERPLY	EXCLUSIVE REPLY
			ESPEC	EXCLUSIVE SPECULATIVE REPLY
			ERESP	EXCLUSIVE RESPONSE
			EACK	EXCLUSIVE ACKNOWLEDGE
			ERPYP	EXCLUSIVE REPLY, SEND PRGE
			BIEXC	BACKOFF INTERVENTION EXCLUSIVE
			BINV	BACKOFF INVALIDATE, VECTOR FORMAT
			BINVP	BACKOFF INVALIDATE, POINTER FORMAT
		GET	IRPLY	INVALID REPLY
			ISPEC	INVALID SPECULATIVE REPLY
			IRESP	INVALID RESPONSE
			IACK	INVALID ACKNOWLEDGE
			NACKG	NEGATIVE ACKNOWLEDGE TO GET
			BIINV	BACKOFF INTERVENTION INVALID
			BIINF	BACKOFF INTERVENTION INVALID FORCED
		ETC.	AARP	AMO READ REPLY
			NCRP	NON-COHERENT READ REPLY
			NACK	COHERENT READ NEGATIVE ACKNOWLEDGE
1012	WRITE	WRITEBACK	WBACK	WRITEBACK ACKNOWLEDGE
			WBBACK	WRITEBACK BUSY ACKNOWLEDGE
		PUT	WACK	WRITE INVALIDATE ACKNOWLEDGE
			WACKP	WRITE INVALIDATE ACK, SEND PRGE
			WNACK	WRITE INVALIDATE NEGATIVE ACKNOWLEDGE

TO FIG. 10B

1000

# FIG. 10B

FROM FIG. 10A

1012	WRITE	PUT	BFLSH	BACKOFF FLUSH	1012b
			BERSE	BACKOFF ERASE	
		ETC.	AWAK	AMO WRITE ACKNOWLEDGE	1012c
			NCWAK	NON-COHERENT WRITE ACKNOWLEDGE	
	PROBE	SHARED	SHWB	SHARING WRITEBACK	1014a
			DNGRD	DOWNGRADE	
			SHWBR	SHARING WRITEBACK, PRIOR WB PENDING	
			DNGDR	DOWNGRADE WITH PRIOR WB PENDING	
		EXCLUSIVE	PRGE	PURGE	1014b
			XFER	OWNERSHIP TRANSFER	
			PRGER	PURGE WITH PRIOR WB PENDING	
			XFERR	OWNERSHIP TRANSFER, PRIOR WB PENDING	
			IWACK	IMPLICIT WRITEBACK RACE ACKNOWLEDGE	
		GET	IIACK	INTERVENTION INVALID ACK	1014c
		ETC.	IVACK	INVALIDATE ACK	1014d
1016	ERROR		PERR	POISONED ACCESS ERROR	
			AERR	READ PROTECTION VIOLATION ERROR	
			WERR	WRITE PROTECTION VIOLATION ERROR	
			DERRR	DIRECTORY ERROR ON A READ REQUEST	
			DERRW	DIRECTORY ERROR ON A WRITE REQUEST	

FIG. 11

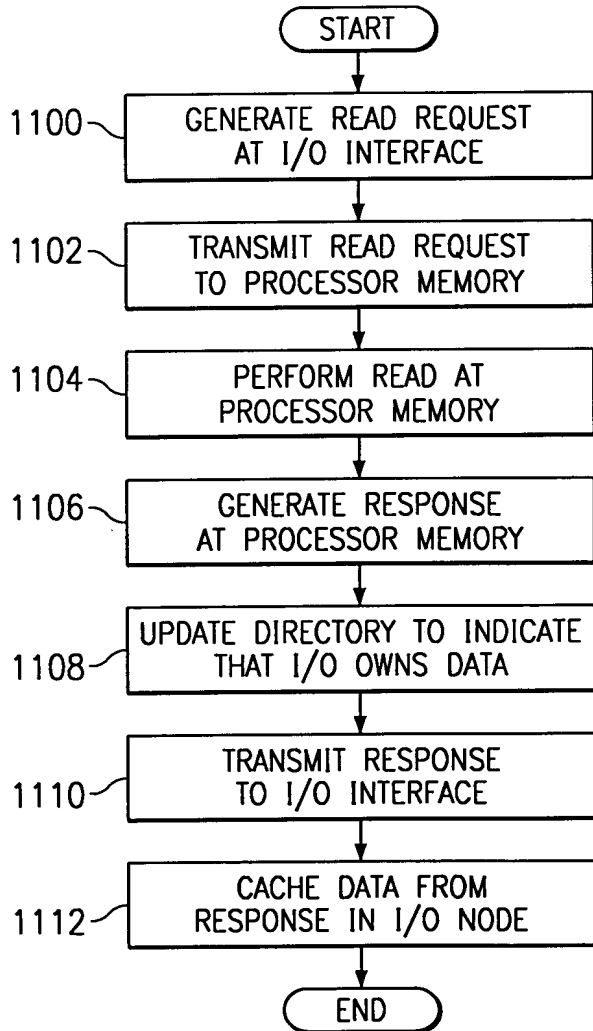


FIG. 12

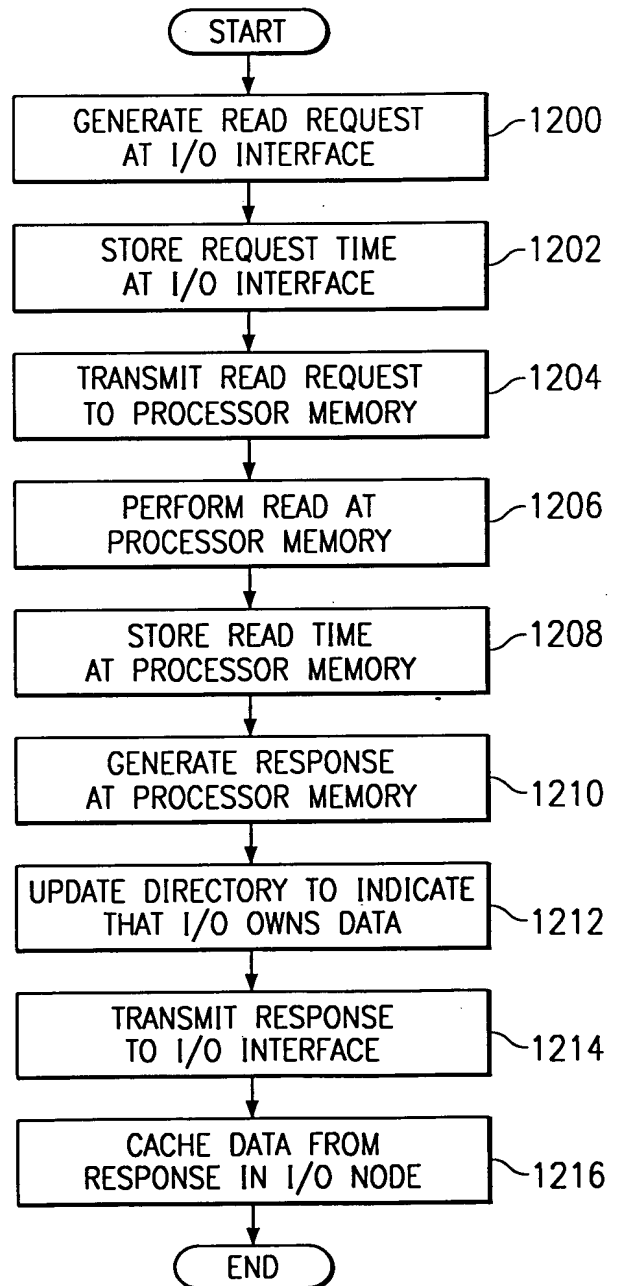




FIG. 13

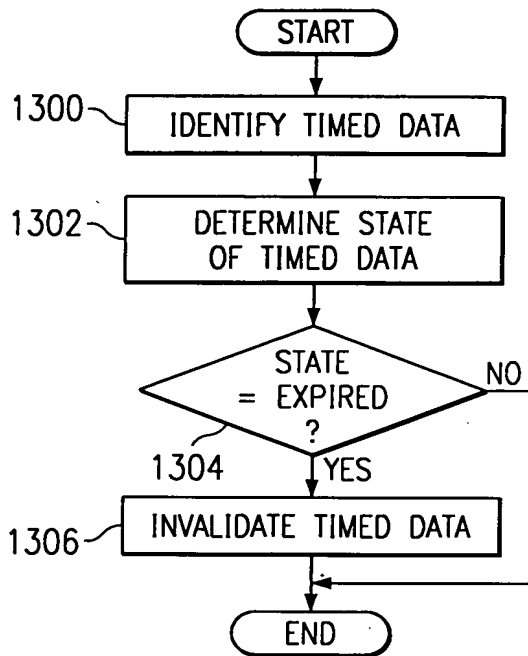


FIG. 14

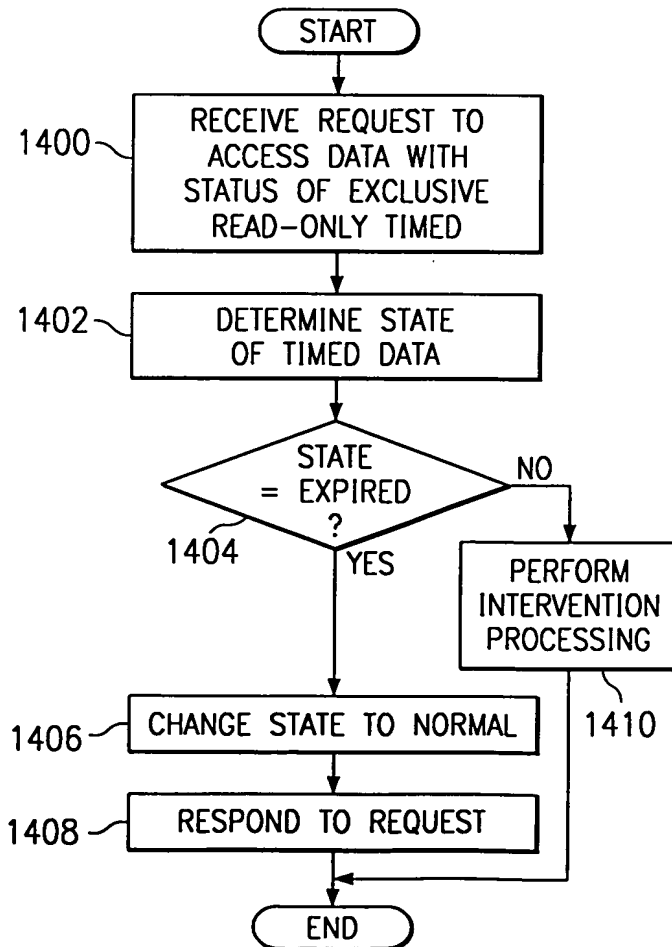


FIG. 15

